# DOH-Hillsborough County COVID-19 Surveillance Report

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SUMMARY: Over the past week (3/7– 3/13), 2,097 COVID cases were identified in Hillsborough County, a decrease of 1.5% from 2,129 during the previous week. The 7-day moving **average of cases per day decreased slightly and is now 300**. The 7-day moving average of **percent positivity decreased from week 9 and is now at 6.5%**. **Case rates were highest in the 25-34 age group**. Rates are stable in all race/ethnicities during week 10, and **case rate continues to be highest in Hispanics**. Case rates **slightly decreased Statewide and all Tampa Bay Area counties**. During the past week in Hillsborough County, **testing rate remained stable**. Pinellas County is experiencing higher testing per 100,000 residents compared to Pasco and Hillsborough. Antigen testing results are being reported on average within the same day and PCR testing turnaround time has stayed consistent at around 2 days. Hillsborough County **hospitalizations for COVID decreased** and are now averaging 198 total COVID inpatients a day, down 10% from last week. At least one dose of **COVID-19 vaccine has been administered to 222,669 Hillsborough County residents, representing 19.3% of the county's vaccine eligible population (age 16 and older).**

INFLUENZA/RESPIRATORY SURVEILLANCE: Influenza activity remains extremely low throughout Hillsborough County and the State. No outbreaks of Influenza or other respiratory pathogens have been reported this influenza season. Very few positive influenza labs have been received and no pediatric mortalities have been reported. Additional information and data about influenza surveillance is available at: http://www.floridahealth.gov/diseases-and-conditions/influenza/

Fig 1. Daily New COVID cases and percent positivity trends in Hillsborough County Residents. The **7-day moving average for percent positivity decreased slightly and is now 6.5%. The 7-day average number of new cases per day (300) decreased by 1.5% from week 9 and is well below the highest 7-day average of 1007 observed on 1/11/2021.** Hillsborough County has reported 115,723 cases to date.
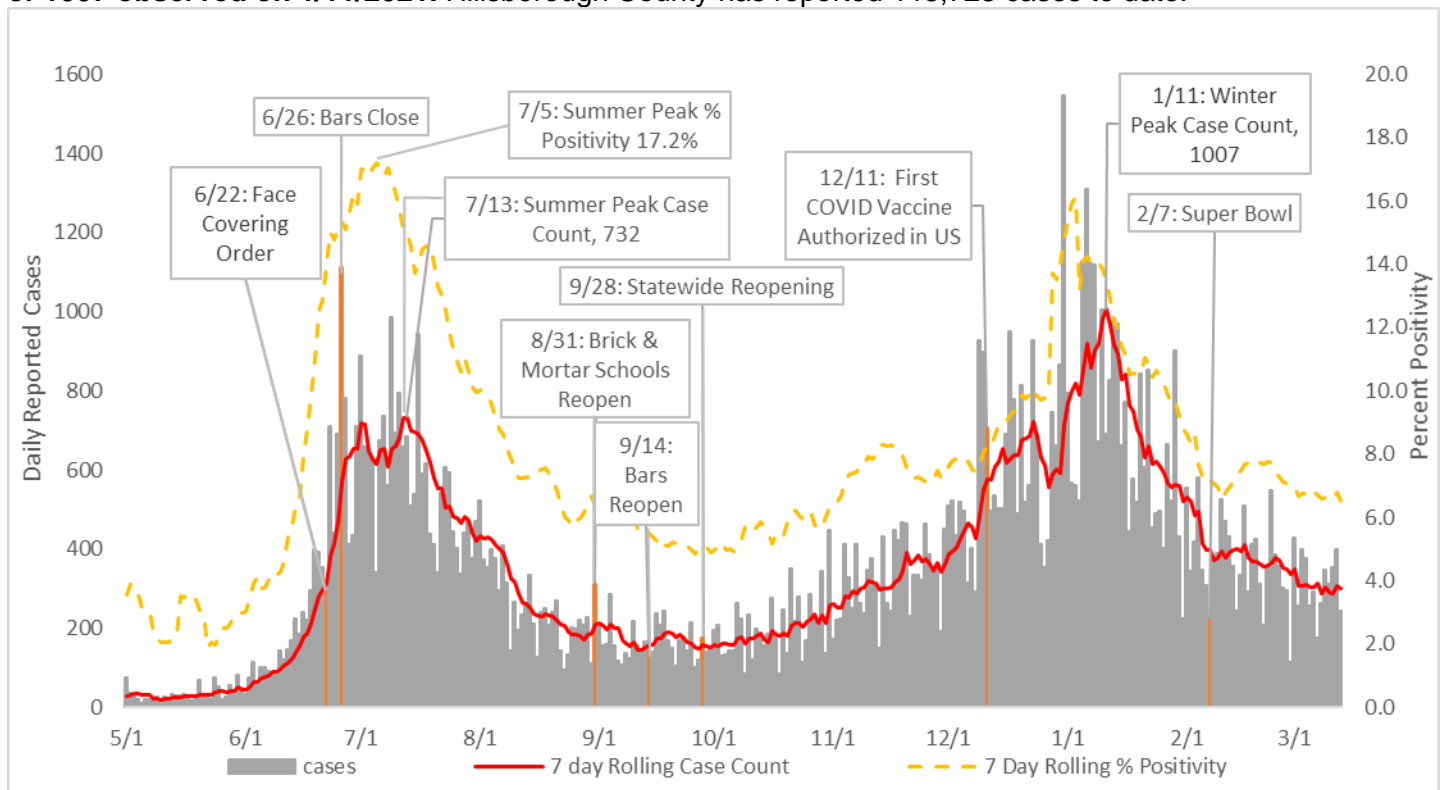
COVID DATA ARE PROVISIONAL AND SUBJECT TO CHANGE

R_t AND INFECTION RATE ESTIMATES

Fig 2 (right). R_t median estimate for Hillsborough County since March 2020. R_t estimate is calculated based on "nowcasted" new case rates (incidence). Nowcasted refers to the fact that the incidence data has been corrected for the disease progression, reporting delays and observation error. Figure 2 includes the historical R_t median estimates (green), the past weeks nowcasted R_t median estimate based on partial data (orange) and the next 7 days forecasted R_t median estimate (purple). The colors, from darkest to lightest, indicate 20%, 50% and 90% credible intervals (CI), respectively. An R_t above 1.0 means the outbreak is growing –

or viewed another way, one person is infecting more than one additional person – and R_t below 1.0 means that outbreak is shrinking. **The current estimate of R_t for Hillsborough County remained stable at 0.97 (90% CI = 0.82-1.20)** where last week the estimate was 0.95 (90% CI = 0.79-1.10).
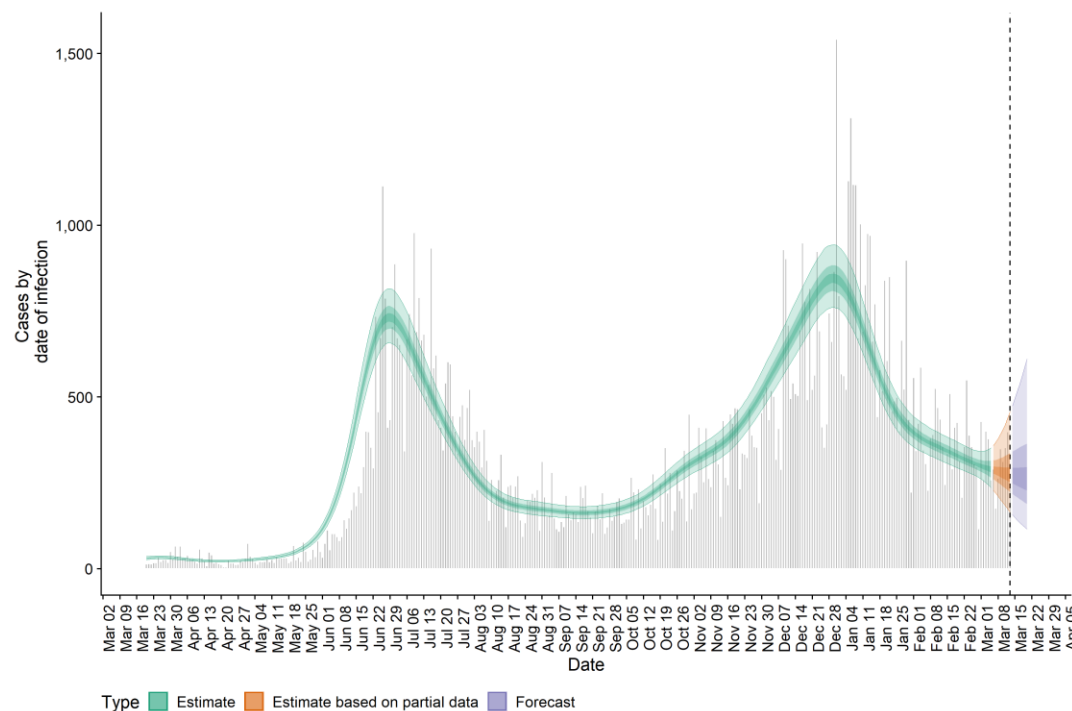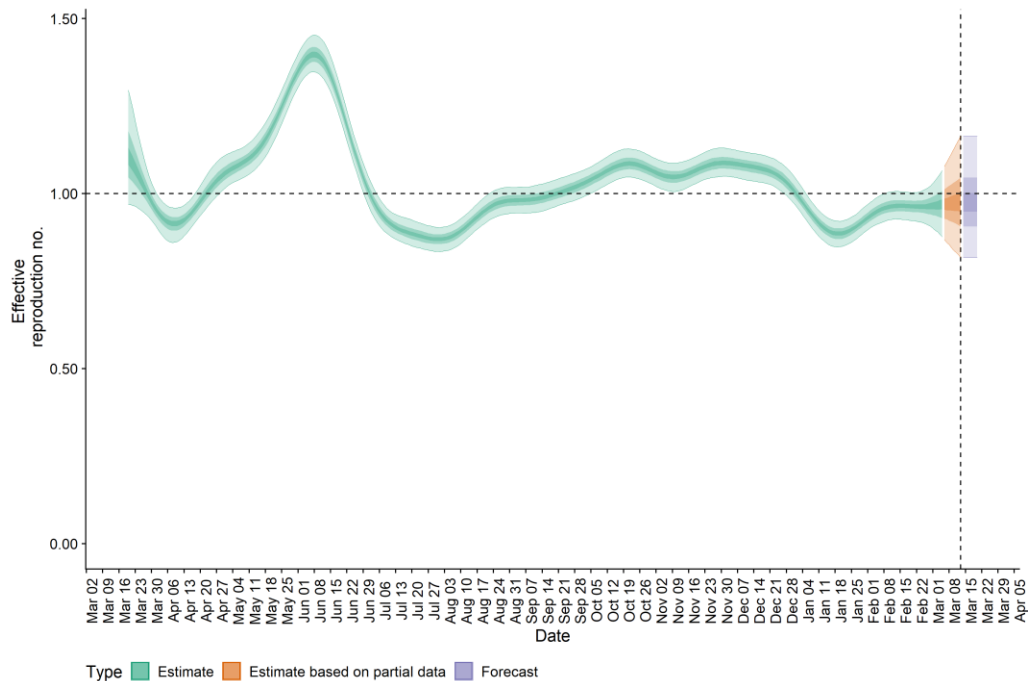

Fig 2B (left). Hillsborough County Daily cases since March 2020. Case estimate is calculated based on "nowcasted" new case rates (incidence). Nowcasted refers to the fact that the incidence data has been corrected for the disease progression, reporting delays and observation error. Figure 2B includes the historical case estimates (green), the past weeks nowcasted case estimate based on partial data (orange) and the next 7 days forecasted case estimate (purple). The colors, from darkest to lightest,

indicate 20%, 50% and 90% credible intervals (CI), respectively. **Based on this past week's case information the median rate of growth of new infections are -0.0071 (-0.052 - 0.044), meaning that new infections are slightly decreasing.**

VARIANT CASES

Fig 2C. Variant COVID-19 cases in Hillsborough County by week identified as variant. The Florida Department of Health (FDOH) three Bureau of Public Health Laboratories (BPHL) have been taking randomized samplings from their positive COVID-19 specimens and performing genetic sequencing. Additionally, a few hospital, university and private labs have worked with CDC and are also performing sequencing. Once sequencing is complete, BPHL notifies FDOH staff of any COVID-19 cases where variant strains were identified. **As of 3/13/2021, 51 variant cases have been identified in Hillsborough County, 49 being the UK variant (B.1.1.7) and 2 South African variant (B.1.351).** Fig 2C (right) shows the number of variant cases by week based on the date the case was identified as a variant.
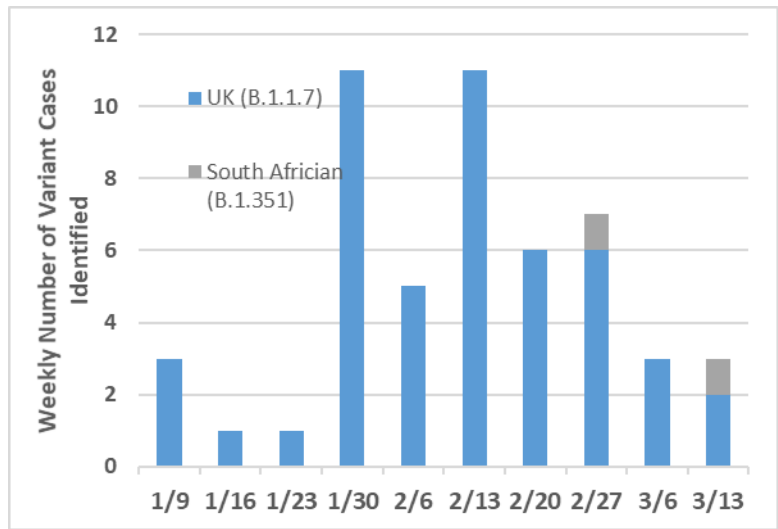
CASES, CASE RATES AND GROUP SETTINGS

Fig 3. Comparison of COVID 7-day average case rate per 100,000 population for Pinellas, Pasco, and Hillsborough Counties and the State of Florida for the past 90 days. All Tampa Bay area counties **rates remained stable with Hillsborough reaching the Florida case rate on 03/12/2021**. The **Florida case rate decreased** and is now **21.2** cases per 100,000.
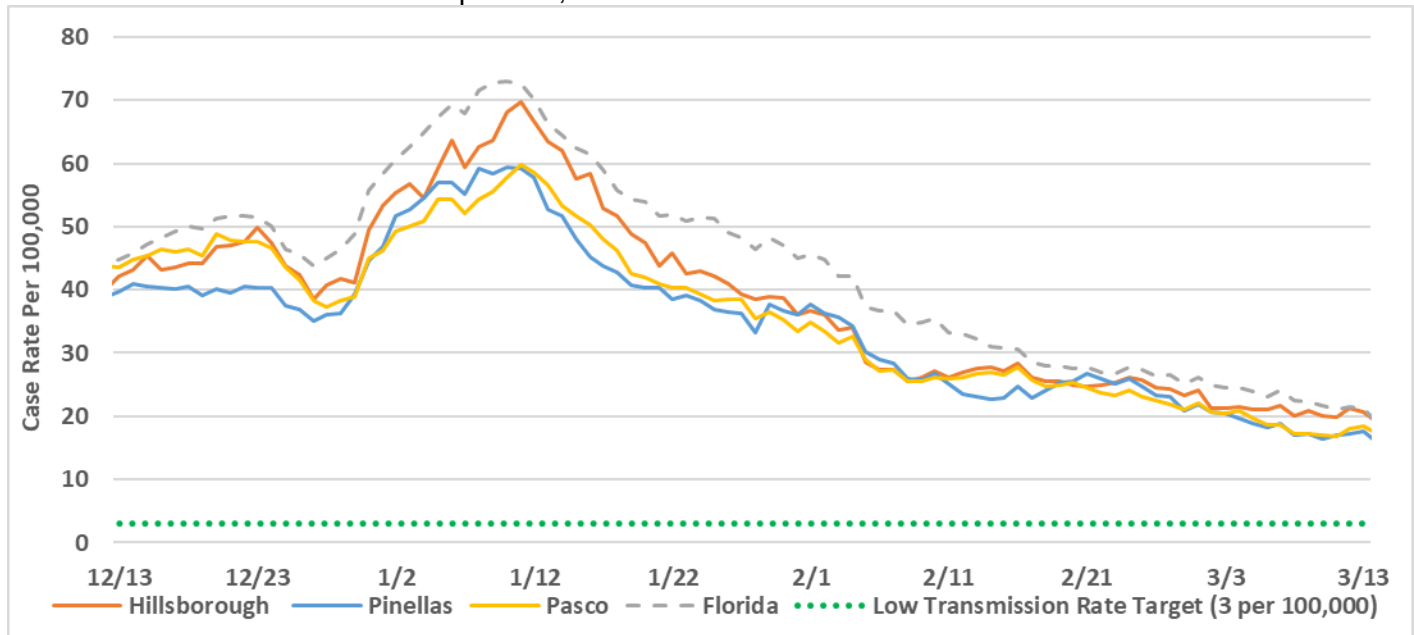
Fig 4. Comparison of COVID 7-day average case rate per 100,000 population by race and ethnicity for the past 90 days in Hillsborough County. Population data was acquired from FLHealth CHARTS. Cases with unknown race or ethnicity are excluded. Rates are remaining stable for all race and ethnicities, and **rates continue to reman highest among Hispanics.**
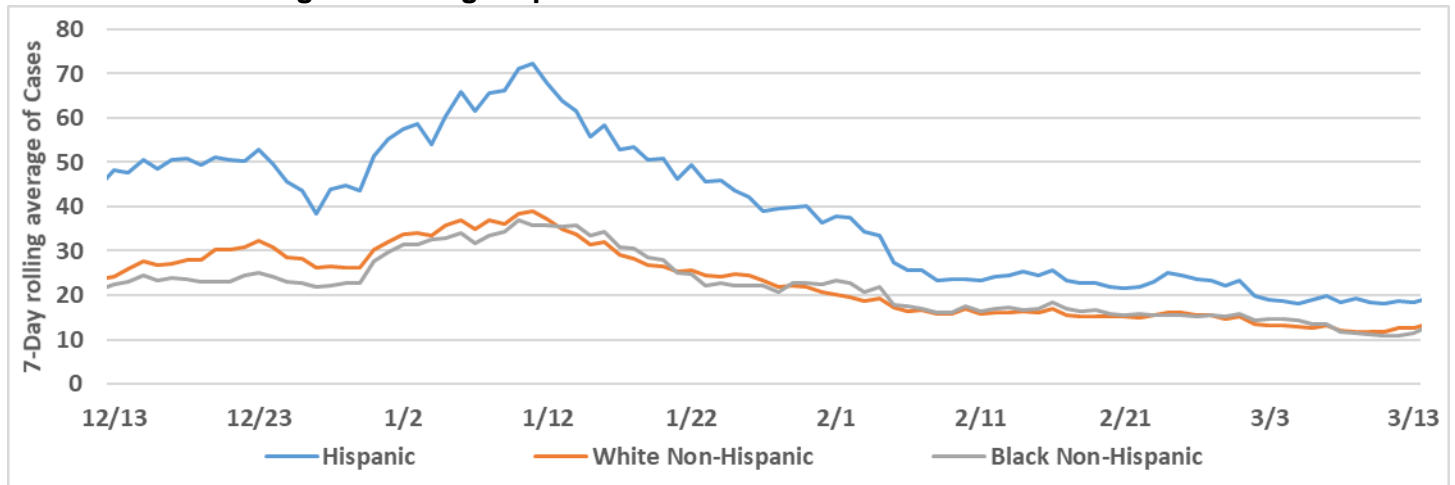

Fig 5. COVID 7-day average case rates per 100,000 population by age group for the past 90 days in Hillsborough County. **The 65+ age group ended the week with the lowest rate and case rate was highest in the 25-34 age group.**

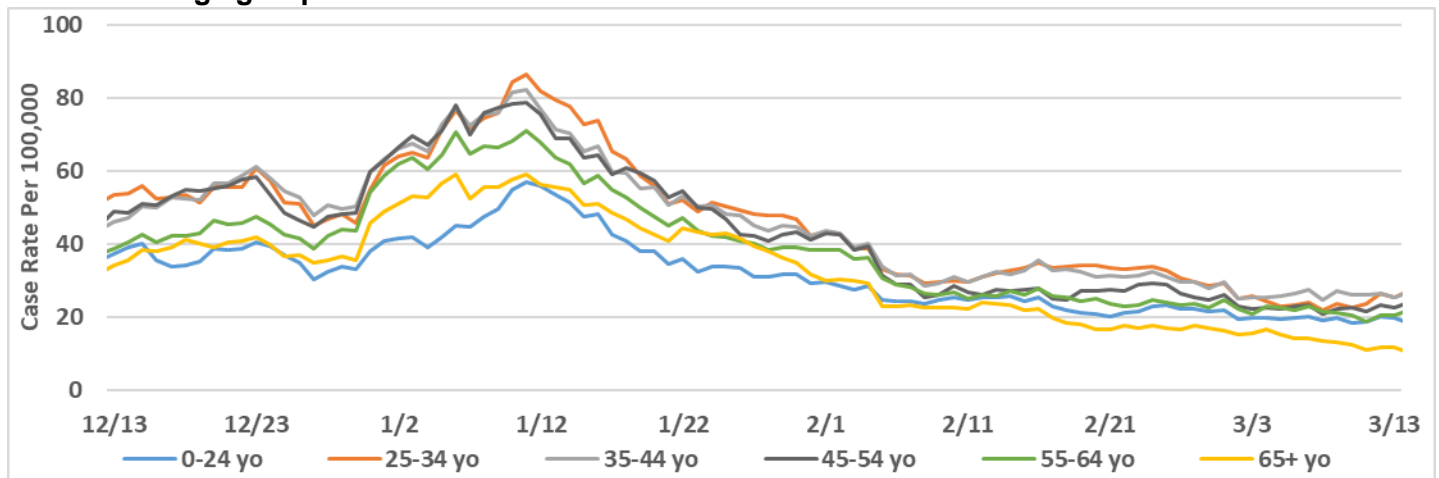**Fig 6.** COVID pediatric and college-aged case rates per 100,000 population by age group, over the past 90 days in Hillsborough County. The 0-24 yo age group from Fig 5 (above), broken out into Preschool aged (0-4 yo), Elementary aged (5-10 yo), Middle/High School aged (11-17 yo) and College aged (18-24 yo). **Rates remain highest in college aged cases. Middle and high school aged cases saw a sharp increase this past week.**
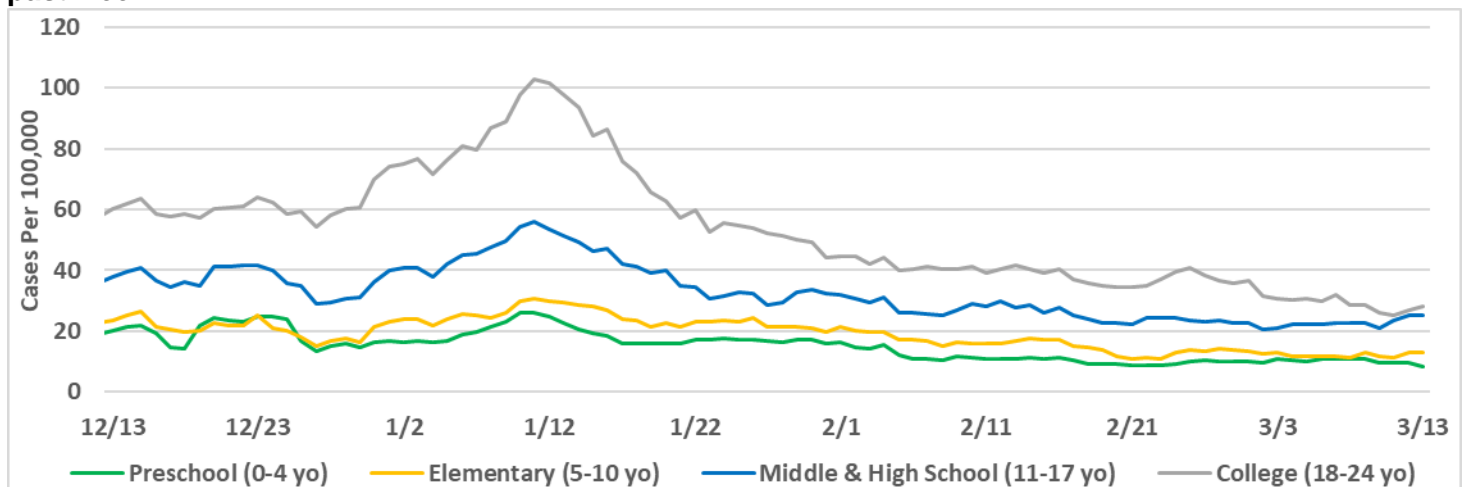

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Fig 7. (right) Weekly reported COVID cases associated with **students and staff at K-12 schools** in Hillsborough County. COVID case must have been on campus during exposure period or infectious period to be counted. Public schools in Hillsborough County were closed for winter break for 2 weeks and the total number of cases decreased during those weeks. Public schools re-opened on January 4th, 2021 causing steady case rates since Week 1. Most cases are associated with family gatherings, travel and extra-curricular activities. Cases during week 10 **slightly increased for students and decreased slightly for staff. Cases from this week are still being investigated and numbers will change.**
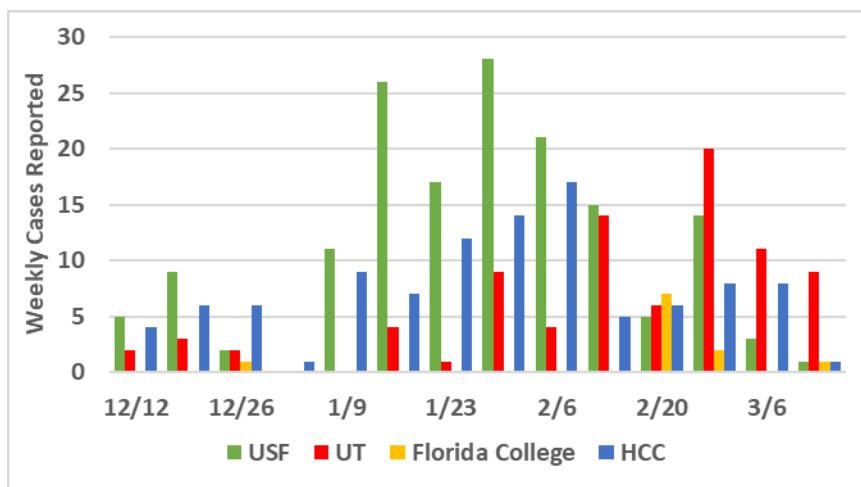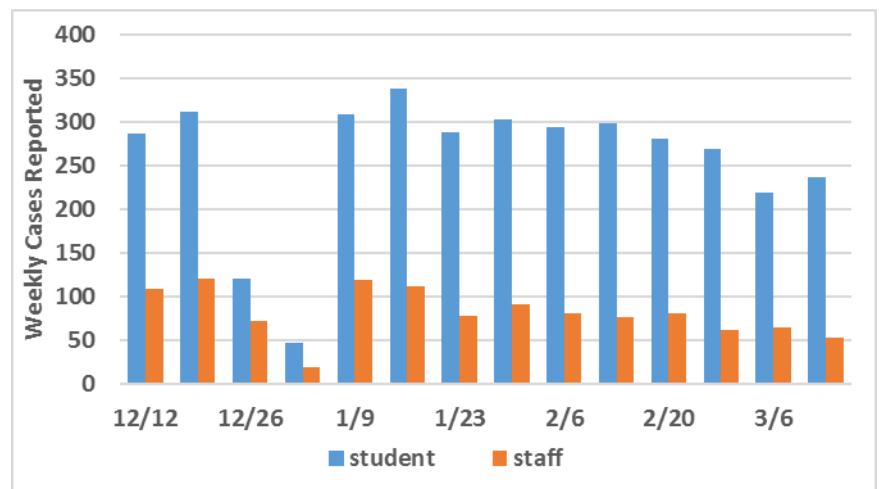
Fig 8. (left) Weekly reported COVID cases associated with **college students and staff** by reporting week. COVID case must have been on campus during exposure period or infectious period to be counted. Most college campuses were closed for winter break and have all now re-opened. **Low numbers of total cases were identified as compared to the fall semester. UT reported the most cases during the past week.**

Fig 9. Daily COVID cases associated with **LTCF residents and staff** for the past 90 days in Hillsborough County. COVID case must have been on LTCF site during the exposure period or infectious period to be counted. The 7-day rolling average of **cases associated with LTCFs has remained stable.**

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Fig. 10. COVID cases in **Health Care Workers (HCW)** for the past 90 days. To collect case occupation a case interview is required with the case, therefore the past week has missing/incomplete data, as case 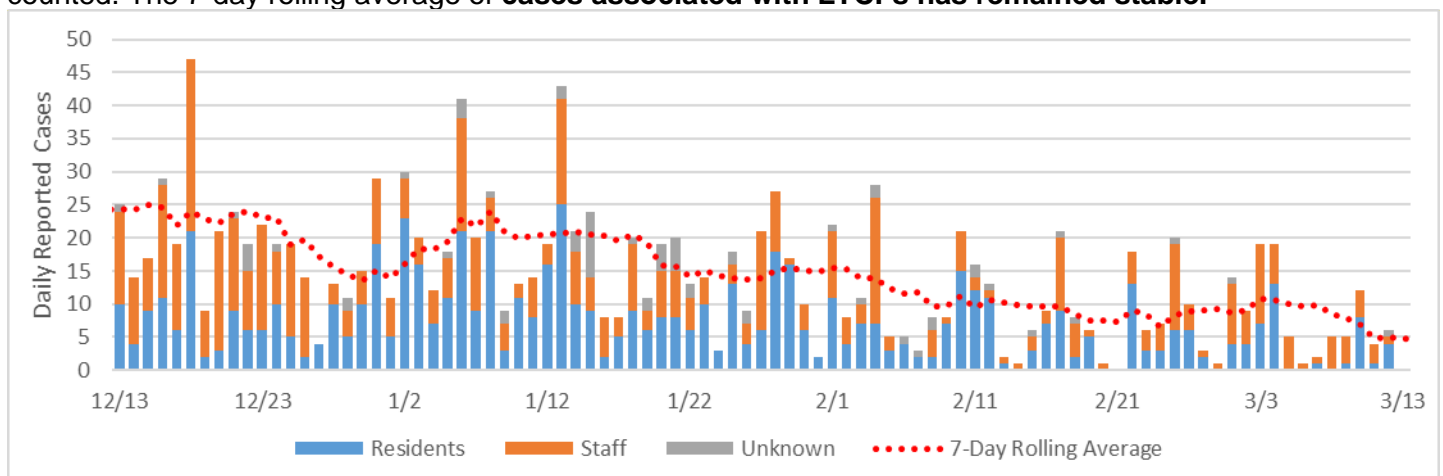investigations are ongoing. **Reported cases in HCWs have slightly decreased this past week but could change due to incomplete data.**
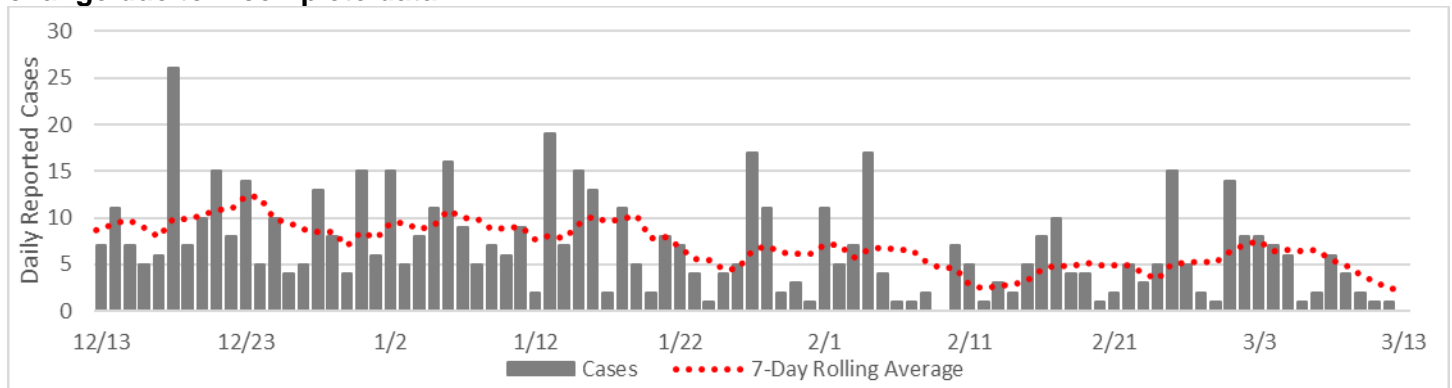
TESTING RATE, TURN-AROUND TIME AND PERCENT POSITIVITY

Fig 11. Reported COVID testing volume and rate for Hillsborough County residents for the past 90 days. Tests are not de-duplicated by person or day; therefore, one person can have multiple tests counted across multiple days. Testing rate has been variable during the past 2 months but has been overall trending downward since mid-January.

Fig 11B. Reported COVID 7-day average testing rate per 100,000 population for Pinellas, Pasco, and Hillsborough Counties and the State for the past 90 days. These counts are de-duplicated, where each person is only counted once per day, regardless of how many times they were tested. All Tampa Bay area counties remained stable this past week.

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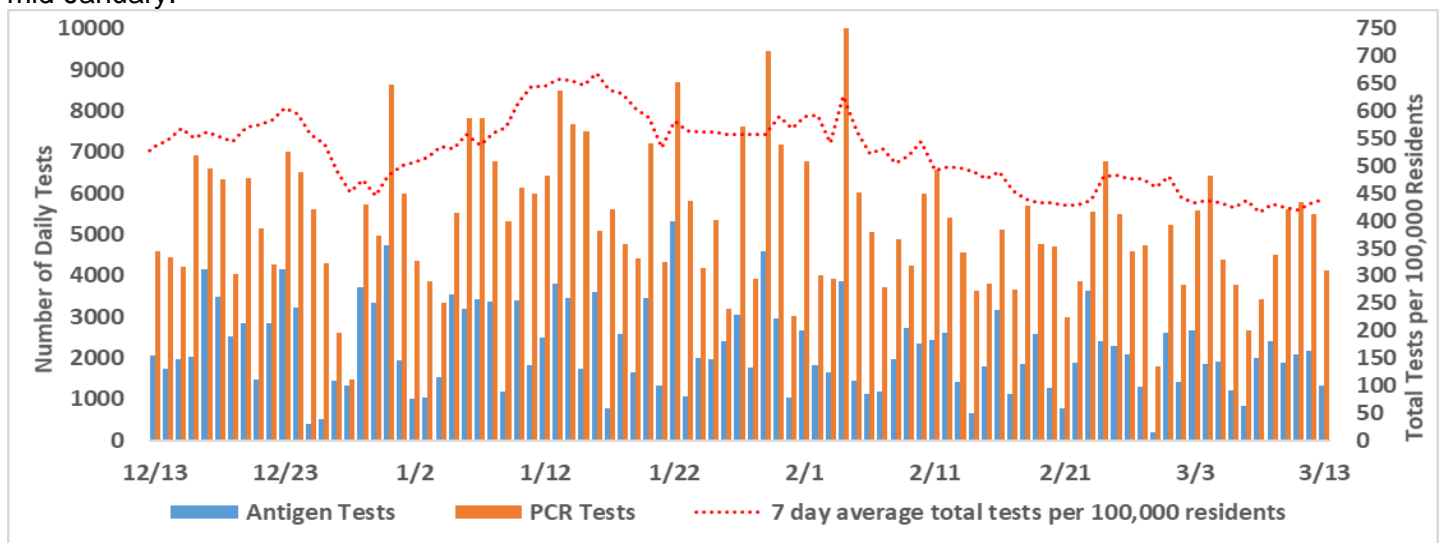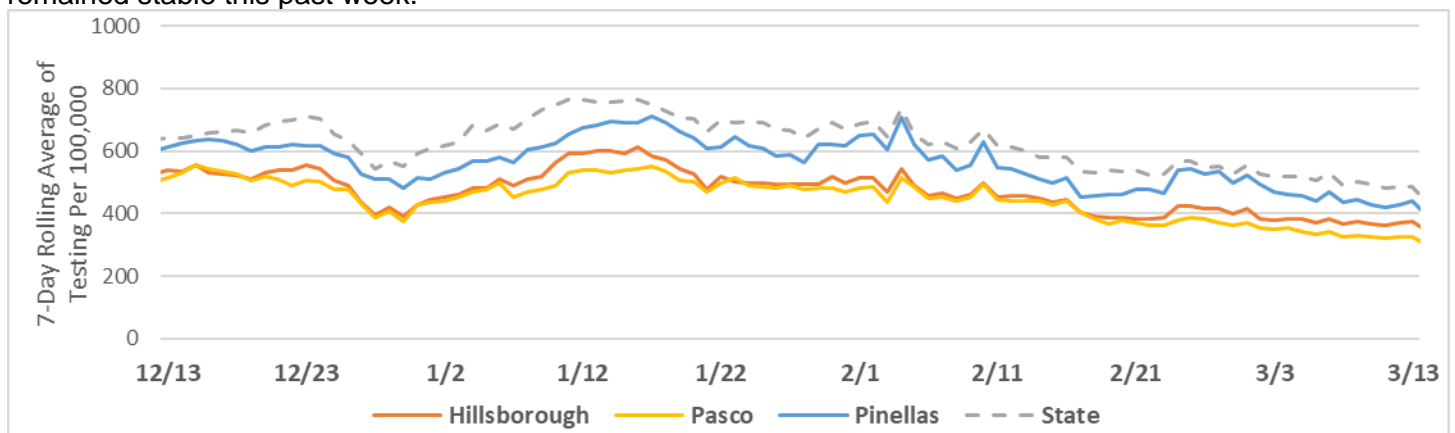**Fig 12.** Average COVID testing turn-around-time (TAT) from specimen collection until results reported to DOH for the past 90 days. During November and December, we observed delays in the turnaround time for the reporting of antigen testing results from a few facilities - these results are filtered out of the analysis for that time (dashed line). **Average TAT for antigen tests is generally less than one day. PCR test average TAT remains around 2 days.**
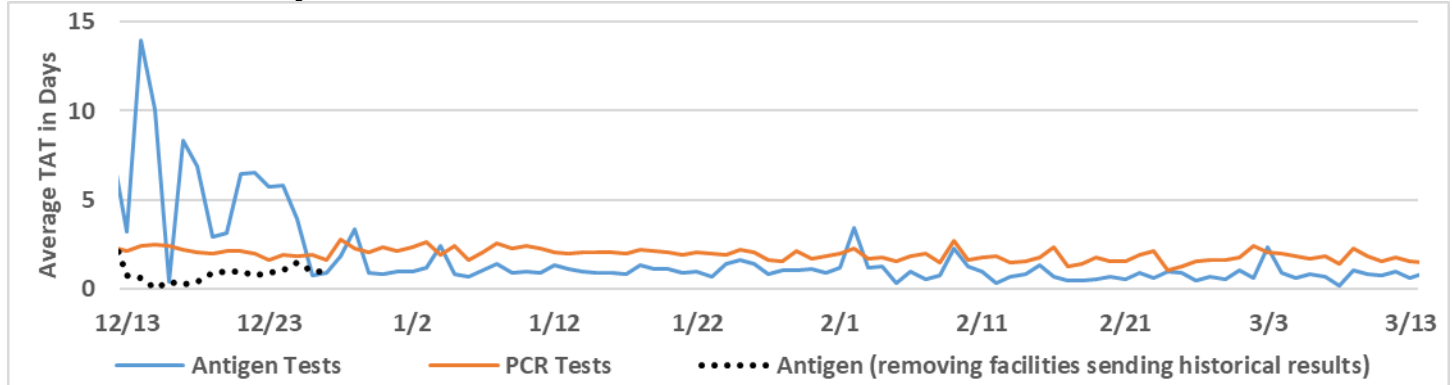

Fig 13. COVID testing percent positivity by age group for the past 90 days on a weekly average, based on Merlin case and lab data for Hillsborough County. Percent positivity was calculated by the date a lab was created that week for a positive COVID case divided by the total number of people tested that week. Decreasing percent positivity is indicating that fewer people tested positive, therefore the lower the percent positivity value the better, which is represented in green. Higher percent positivity values are represented in red. **Percent positivity continued to be highest in the 5-14 age group since12/26/2020, and lowest in the 85+ age group.**

	12/12	12/19	12/26	1/2	1/9	1/16	1/23	1/30	2/6	2/13	2/20	2/27	3/6	3/13
0-4 years	6.6%	8.1%	9.0%	9.9%	13.4%	8.4%	9.0%	8.1%	4.9%	6.5%	6.6%	6.3%	7.1%	5.4%
5-14 years	9.0%	9.3%	11.8%	17.1%	17.7%	13.6%	13.3%	10.4%	11.7%	8.8%	9.8%	9.3%	9.2%	8.8%
15-24 years	9.5%	10.3%	10.6%	14.9%	14.2%	9.7%	9.9%	9.1%	8.1%	8.4%	8.2%	8.0%	7.7%	7.4%
25-34 years	9.0%	9.4%	8.4%	12.7%	13.7%	11.7%	9.7%	8.9%	6.4%	6.9%	8.7%	7.1%	6.3%	6.8%
35-44 years	8.5%	10.0%	10.5%	14.6%	14.6%	11.7%	10.5%	9.0%	6.9%	7.4%	8.7%	7.5%	7.8%	7.1%
45-54 years	9.2%	11.4%	10.4%	15.1%	15.5%	12.1%	10.6%	9.3%	7.0%	6.7%	7.9%	7.1%	7.0%	6.7%
55-64 years	7.6%	9.0%	9.3%	14.2%	13.3%	10.7%	9.1%	8.2%	6.8%	6.4%	6.9%	6.1%	6.3%	6.1%
65-74 years	7.1%	9.0%	9.6%	13.8%	11.7%	10.1%	9.8%	8.0%	6.5%	6.4%	5.5%	5.8%	5.0%	4.3%
75-84 years	6.4%	8.2%	9.0%	12.7%	11.8%	9.7%	8.1%	7.6%	5.9%	5.8%	4.3%	3.8%	3.5%	3.3%
85+ years	4.8%	5.8%	5.7%	8.6%	8.8%	6.5%	7.9%	6.2%	3.8%	4.4%	3.2%	3.8%	2.0%	2.1%

Fig 13B. COVID testing rate by age group, per 100,000 population for the past 90 days on a weekly average, based on Merlin lab data for Hillsborough County. Testing rates indicate how many people in that specific age group for Hillsborough County are being tested to identify cases within the community. The higher the testing rate the better, indicated in green. The lower the testing rate is indicated in red. **Testing rate was lowest in the 0-4 age group and highest in the 85+ age group this past week.**

	12/12	12/19	12/26	1/2	1/9	1/16	1/23	1/30	2/6	2/13	2/20	2/27	3/6	3/13
0-4 years	289	277	185	164	173	220	191	218	166	171	141	159	154	152
5-14 years	288	256	209	168	386	256	193	239	224	227	155	184	162	200
15-24 years	553	513	504	445	557	776	462	499	442	456	390	421	370	377
25-34 years	566	548	668	562	623	702	565	592	551	516	443	468	412	419
35-44 years	519	521	510	464	527	586	491	512	465	446	365	405	350	368
45-54 years	487	474	449	440	497	533	469	464	413	410	346	361	326	334
55-64 years	492	476	441	435	498	543	477	479	425	410	366	385	348	335
65-74 years	435	432	361	352	437	474	421	398	347	345	305	318	301	272
75-84 years	484	491	423	410	511	568	490	480	388	421	365	375	357	347
85+ years	833	760	796	644	783	880	784	771	639	652	567	566	730	896

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HOSPITALIZATIONS AND HOSPITALIZATION RATE

Fig 14. COVID admissions and inpatients in Non-ICU and ICU beds in Hillsborough County, based on the AHCA ESS Report. Hillsborough County inpatient hospitalizations for COVID slightly decreased this past week with 7-day average of 198 total COVID inpatients a day. Total inpatient **hospitalizations decreased by 10.4% from last week**. Daily COVID admits decreased slightly averaging 34 per day.
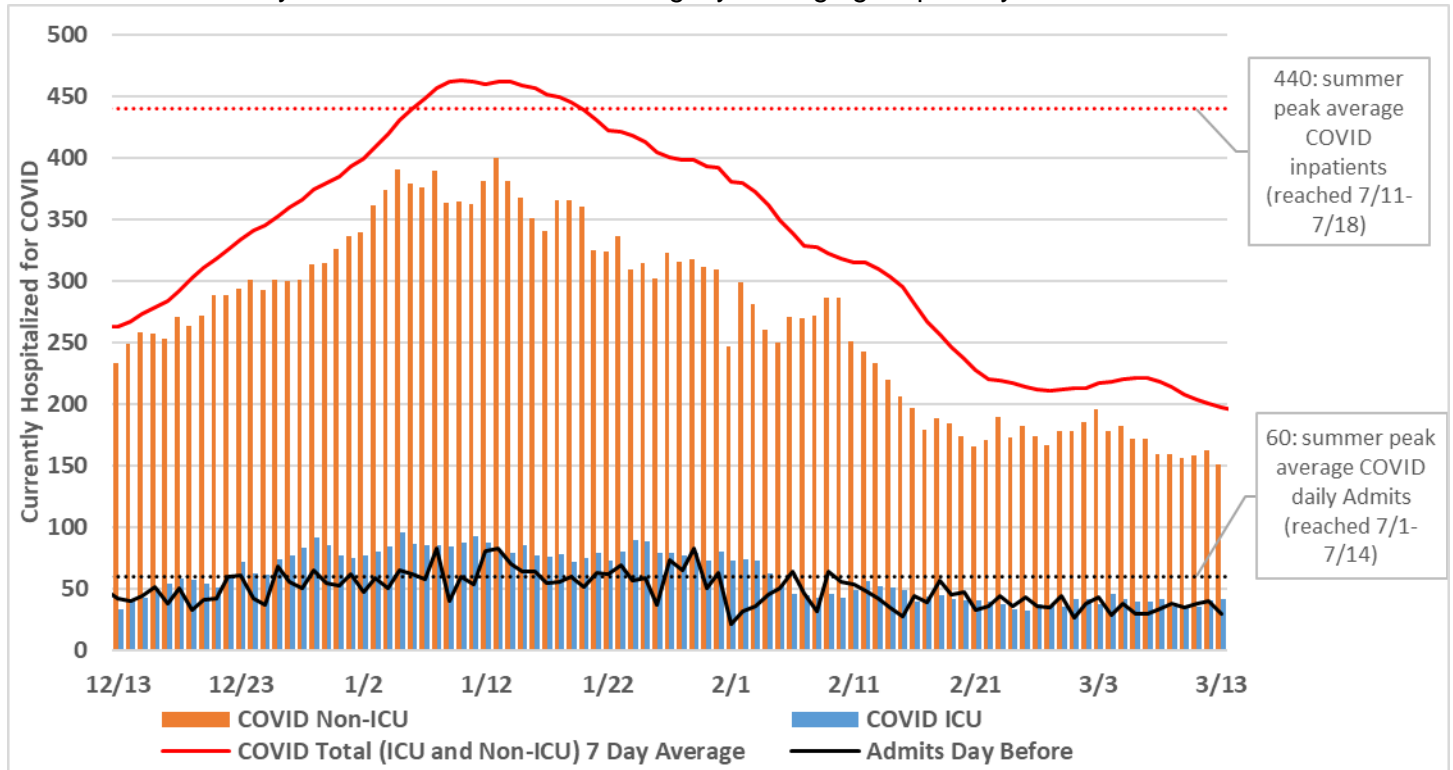

Fig 15. Percentage of Hospital and ICU beds occupied in Hillsborough County, based on AHCA ESS Report. Occupied beds decreased to 80% for ICU beds and increased to 71% in Non-ICU beds.
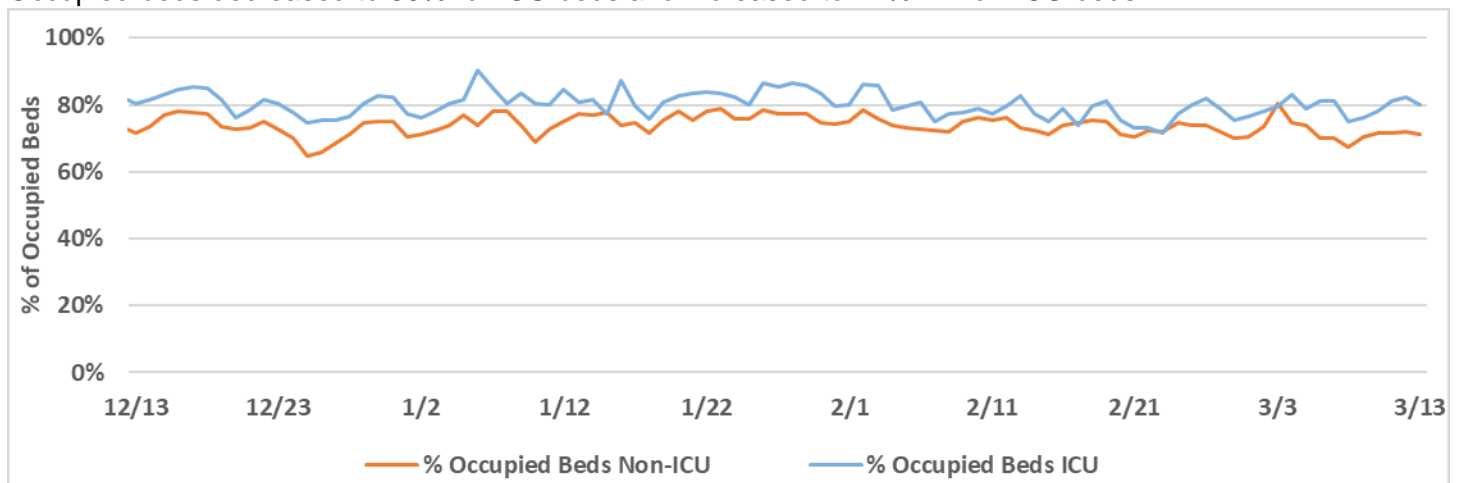

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Fig 16. COVID Hospitalization rate per 100,000 by Race/ethnicity, over the past 90 days, based on Merlin case data. Cases with unknown race/ethnicity are excluded. Population data was acquired from FLHealth CHARTS. To collect case hospitalization a case investigation and/or interview is required with the case, therefore the past week has missing/incomplete data as case investigations are ongoing. Over the past week, **hospitalization rates remained highest in Black Non-Hispanic Cases.**
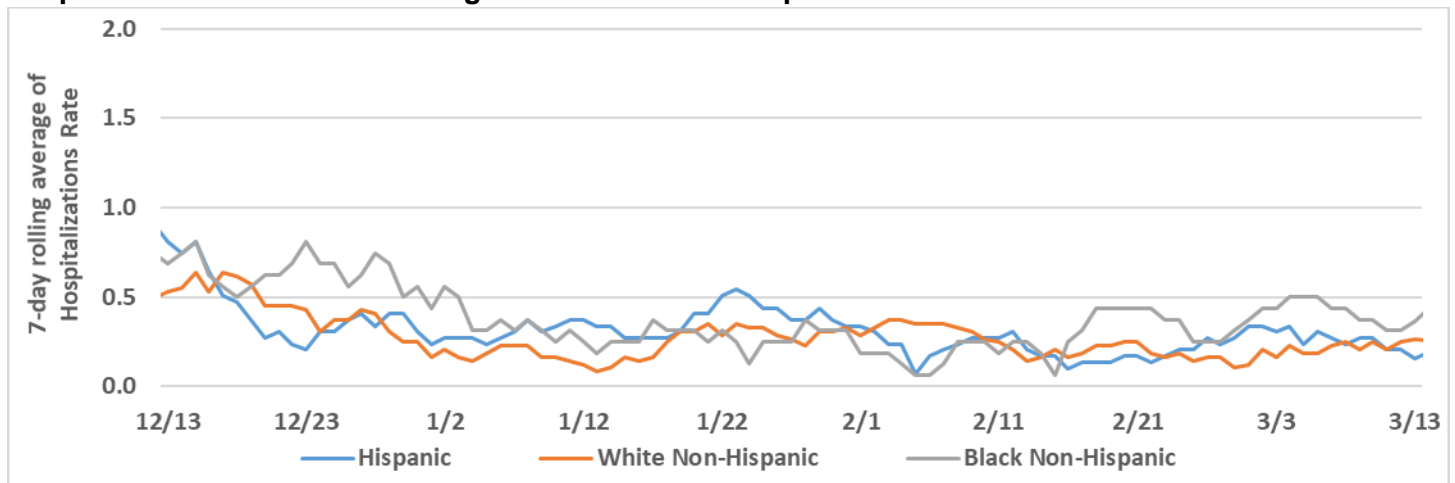

Fig 17. Percentage of Urgent Care Center (UCC), Hospital, and Emergency Department (ED) visits with a discharge diagnosis (DD) for influenza (flu) or COVID-like illness (CLI) in Hillsborough County, based on FL-ESSENCE reporting facilities, by reporting week. As additional DD data is received, the previous weeks could change in value. Visits remain well below the historical values for flu. **The percentage of visits for COVID had been decreasing each week since 1/9/2021 but increased slightly during the past two weeks.**
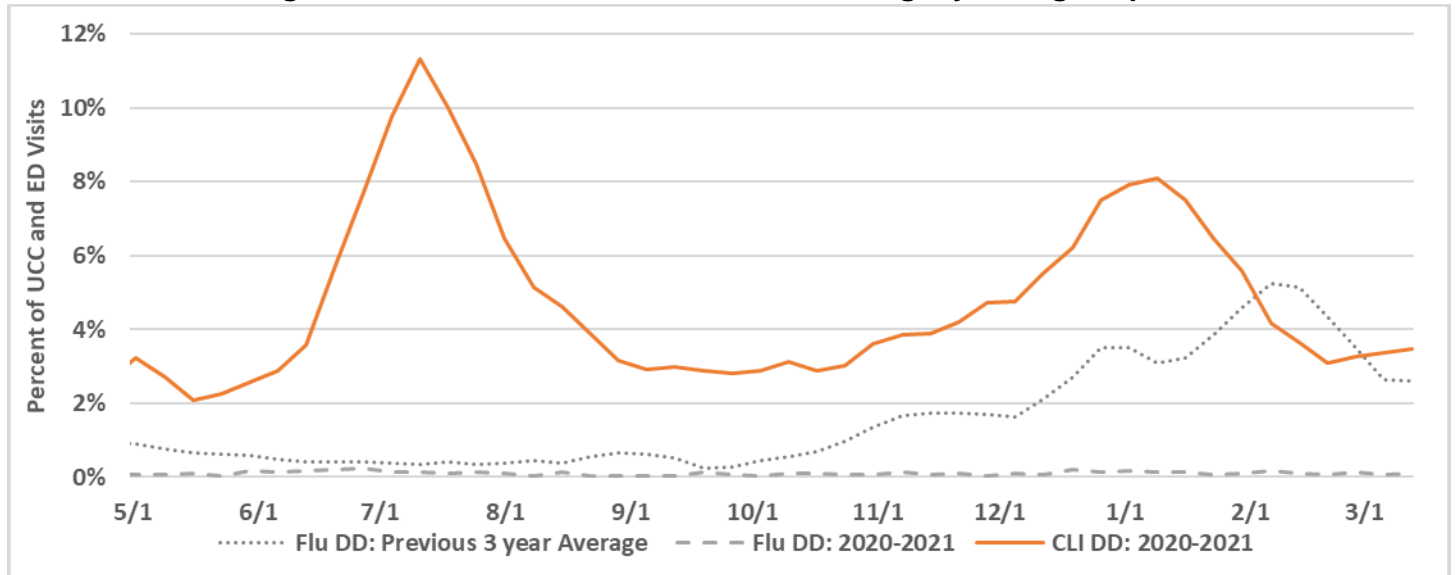
DEATHS AND DEATH RATES

Important Note: COVID deaths are reported to DOH from a variety of sources including hospitals, Medical Examiners Offices and from the Vital Statistics database. The Vital Statistics Database Data is reported electronically and can have delays of 2-4 weeks from the date of death until the date reported. Data during this time frame should be assumed to be incomplete and is indicated by the shaded area in each graph below.

Fig 18. Daily COVID deaths reported by date of death over the past 90 days, based on Merlin case data and Vital Statistics Death data. Over the past 90 days, reported COVID deaths have ranged from 0-15 per day and **deaths are remaining stable but could further change due to delays in reporting.**
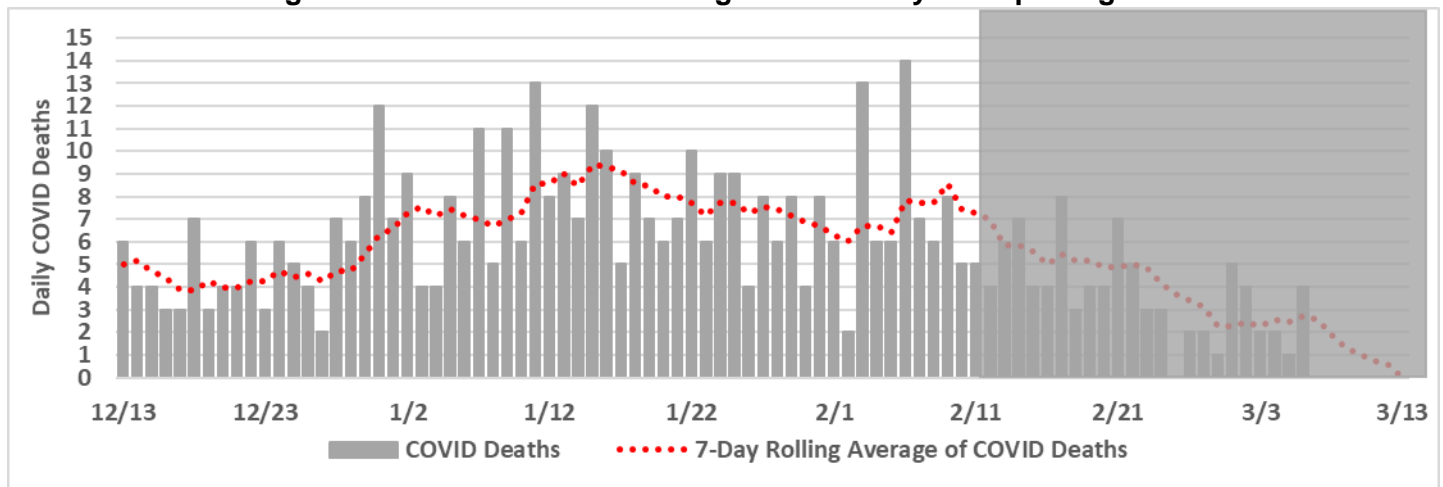
Fig 19. COVID 7-day rolling average death rate per 100,000 by race/ethnicity, for the past 90 days, based on Merlin case data and Vital Statistics Death data. Population data was acquired from FLHealth CHARTS. Cases with unknown race/ethnicity are excluded. Over the past 90 days, **death rates are stable in all race/ethnicities but could change due to delays in reporting.**
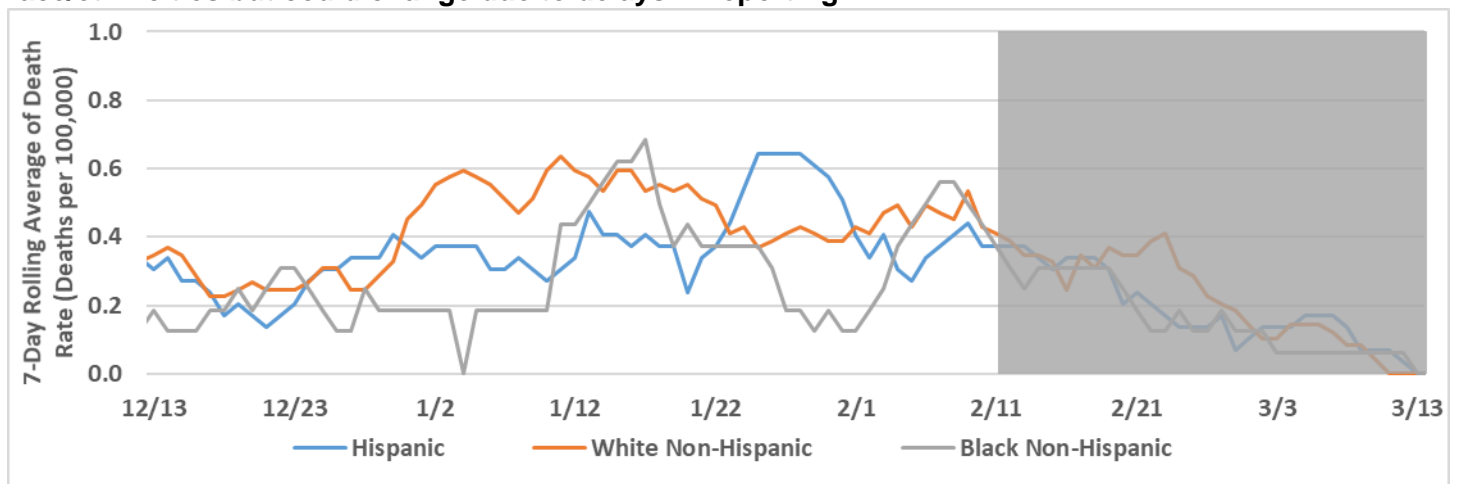
Fig 20. COVID Deaths associated with LTCFs as a percentage of all deaths, over the past 90 days, based on Merlin Data and Vital Statistics Death data. To date, 553 of the 1,555 (36%) COVID deaths in Hillsborough County were associated with LTCFs. Recently, LTCF associated deaths have accounted for about 1-2 deaths/day.

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Fig 21. COVID cases, deaths, case fatality rate, and mortality rates by gender, age group and race/ethnicity in Hillsborough County.

Gender	Cases	Deaths	Case Fatality Rate	Mortality rate per 100,000 population
Female	60861	725	1.19%	98.21
Male	52748	830	1.57%	117.39
Unknown	1139	0	0.00%	
Total	**114748**	**1555**	**1.36%**	**107.59**

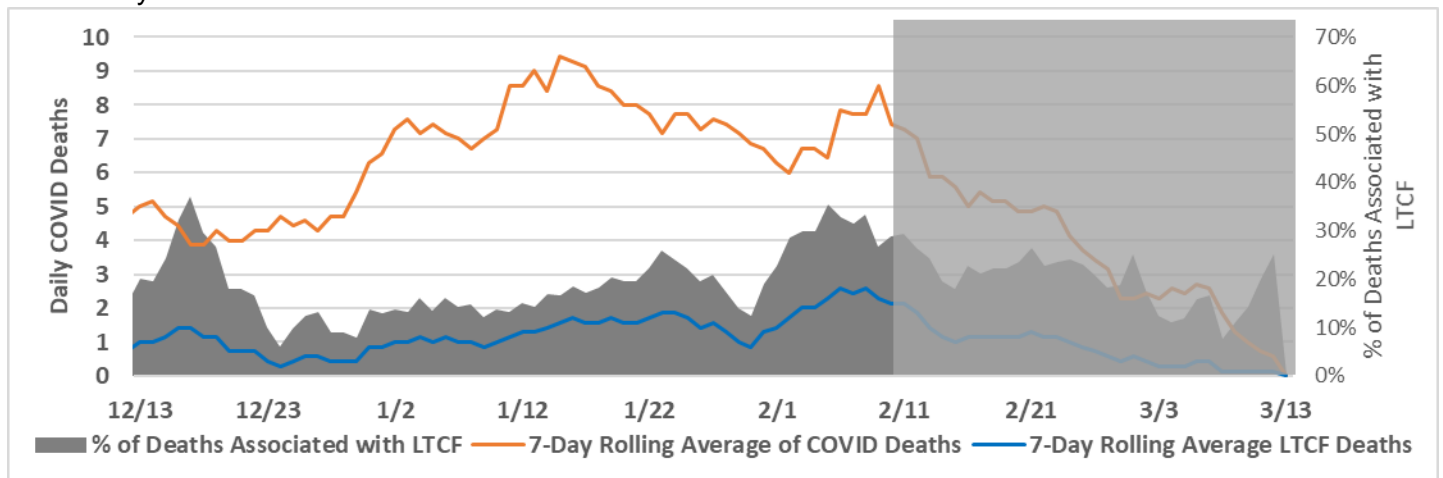| Age Group	Cases	Deaths	Case Fatality Rate	Mortality rate per 100,000 population
0-4 years	2509	0	0.00%	0.00
5-14 years	7138	1	0.01%	0.55
15-24 years	19856	2	0.01%	1.09
25-34 years	22012	3	0.01%	1.36
35-44 years	18198	18	0.10%	9.14
45-54 years	17202	57	0.33%	29.67
55-64 years	13483	164	1.22%	94.40
65-74 years	7666	342	4.46%	277.71
75-84 years	4146	501	12.08%	842.30
85+ years	2089	467	22.36%	1956.51

Race	Cases	Deaths	Case Fatality Rate	Mortality rate per 100,000 population
White	53766	1047	1.95%	97.53
Black	13953	231	1.66%	89.57
Other	20347	218	1.07%	191.56
Unknown	26682	59	0.22%	
Total	**114748**	**1555**	**1.36%**	**107.59**

Ethnicity	Cases	Deaths	Case Fatality Rate	Mortality rate per 100,000 population
Hispanic	33087	356	1.08%	84.25
Non-Hispanic	49167	964	1.96%	94.26
Unknown	32494	235	0.72%	
Total	**114748**	**1555**	**1.36%**	**107.59**

VACCINATIONS

Fig 22. COVID-19 vaccines administered Statewide and to Hillsborough County residents. Numbers represent the number of doses (green) and people vaccinated (blue) and categories are exclusive (a person has either received "first dose" or "series complete"). Based on data that has been reported to FLSHOTS as of 3/13/2021.

Total COVID-19 Vaccine Doses Administered Statewide	6,450,812		Total COVID-19 Vaccine Doses Administered to Hillsborough County Residents	330,564
Statewide Florida Residents Vaccinated	4,204,186		Hillsborough County Residents Vaccinated	222,669
First Dose Only	1,880,820		First Dose Only	108,740
Series Completed	2,323,366		Series Completed	113,929

Fig 23. COVID vaccine doses administered to Hillsborough County residents by week, using FLSHOTS immunizations records. The "Estimated % of Eligible County Vaccinated" is calculated based on all vaccines administered to Hillsborough County residents (numerator) and eligible population age 16 and older in Hillsborough County (denominator). 27,282 Hillsborough County residents were vaccinated with their first dose of the vaccine during this past week. 113,929 residents have completed the vaccine series.

| Week End Date	Weekly Residents Vaccinated with First Dose	Number of Residents Vaccinated With At Least 1 Dose (Cumulative)	% Residents 16 & Over With At Least 1 Dose	Number of Residents Completed Series (Cumulative)	% Residents 16 & Over With Series Completed
12/19/2020	4,410	4,410	0.4%	0	0.0%
12/26/2020	4,911	9,321	0.8%	0	0.0%
1/2/2021	6,537	15,858	1.4%	0	0.0%
1/9/2021	20,258	36,116	3.1%	4,175	0.4%
1/16/2021	24,086	60,202	5.2%	8,327	0.7%
1/23/2021	15,417	75,619	6.6%	12,130	1.1%
1/30/2021	18,057	93,676	8.1%	23,142	2.0%
2/6/2021	20,232	113,908	9.9%	48,292	4.2%
2/13/2021	16,949	130,857	11.3%	63,217	5.5%
2/20/2021	15,505	146,362	12.7%	76,782	6.7%
2/27/2021	13,675	160,037	13.9%	90,000	7.8%
3/6/2021	30,226	190,263	16.5%	101,385	8.8%
3/13/2021	32,406	222,669	19.3%	113,930	9.9%

Fig 24. COVID-19 vaccine doses administered to Hillsborough County residents by gender and age. The "% of Eligible County Vaccinated" is calculated based on all vaccines administered to Hillsborough County residents (numerator) and eligible population aged 16 and older in Hillsborough County (denominator) for each demographic group. To date, **113,772 (64.8%) Hillsborough County residents over the age of 65 have been vaccinated with at least one dose of COVID-19 vaccine.**

Gender	First Dose	Series Completed	Total Residents Vaccinated	% Residents With At Least 1 Dose	% Residents With Series Completed
Female	64,968	68,265	133,233	22.3%	11.4%
Male	43,447	45,554	89,001	16.0%	8.2%
Unknown	325	110	435	-	-
Total	**108,740**	**113,929**	**222,669**	**19.3%**	**9.9%**

Age	First Dose	Series Completed	Total Residents Vaccinated	% Residents With At Least 1 Dose	% Residents With Series Completed
16-24 years	2,671	2,130	4,801	2.9%	1.3%
25-34 years	6,756	8,273	15,029	6.8%	3.8%
35-44 years	9,091	9,675	18,766	9.5%	4.9%
45-54 years	11,653	10,255	21,908	11.4%	5.3%
55-64 years	15,846	12,547	28,393	16.3%	7.2%
65-74 years	37,972	40,420	78,392	63.7%	32.8%
75-84 years	18,703	22,298	41,001	68.9%	37.5%
85+ years	6,048	8,331	14,379	60.2%	34.9%
Total	**108,740**	**113,929**	**222,669**	**19.3%**	**9.9%**

Age	First Dose	Series Completed	Total Residents Vaccinated	% Residents With At Least 1 Dose	% Residents With Series Completed
16-64 years	46,017	42,880	88,897	9.4%	4.5%
65+ years	62,723	71,049	133,772	64.8%	34.4%
Total	**108,740**	**113,929**	**222,669**	**19.3%**	**9.9%**

Fig 25. Percentage of residents 65 years old and over receiving at least one dose of the COVID-19 vaccine, comparision of Hillsborough, Pasco and Pinellas Counties. COVID-19 vaccine was made available by Executive Order to residents 65 years old and over at the end of December 2020. **The percentage of 65 years old and over vaccinated has steadily increased in all three counties since then.**
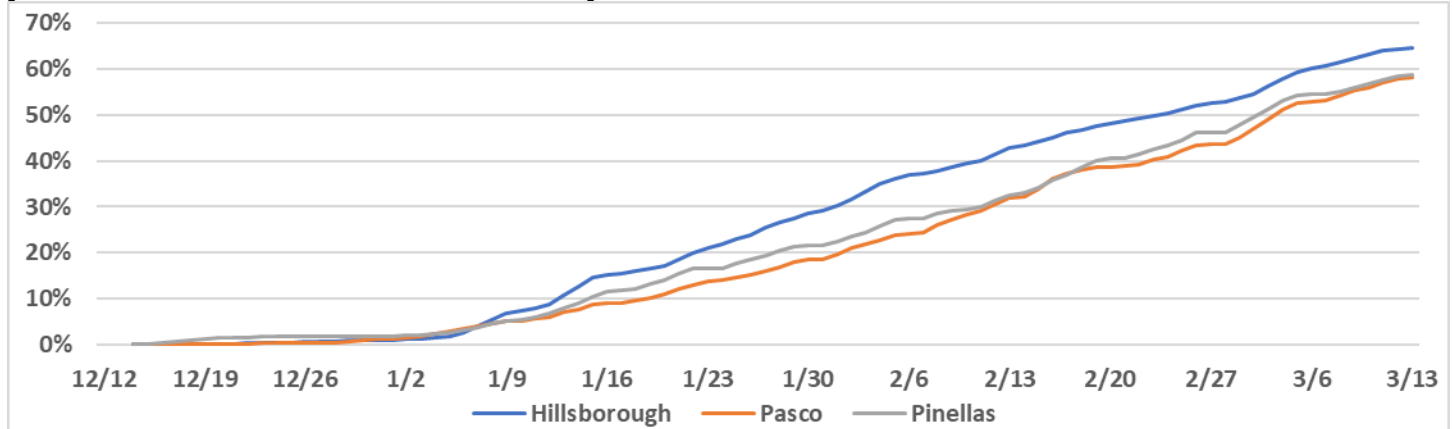
Additional COVID surveillance data, visualizations and information can be found at the links below:
- Florida Department of Health Statewide COVID Dashboard: https://experience.arcgis.com/experience/96dd742462124fa0b38ddedb9b25e429/
- Hillsborough County COVID Dashboard: https://www.hillsboroughcounty.org/en/residents/public-safety/emergency-management/stay-safe/covid-19-dashboard
- Hillsborough County School District Dashboard: https://hillsboroughschools.org/doc/2744/school-reopening-plan/frequently-asked-questions/coviddash/

Additional notes about data sources and data collection for the charts and tables used in this report:

Merlin reportable disease database: Merlin serves as the state's repository of reportable disease case reports, including automated notification of staff about individual cases of high-priority diseases. Access to Merlin is available only to approved Department of Health employees. COVID data is entered in Merlin in multiple ways. Data fields associated with Electronic Lab Reports (ELRs) or electronic case reports will be auto populated when available. Additionally, specific to COVID cases, the Healthy Together APP allows for individuals to complete and report demographics, symptomology and other data elements to DOH. Case investigators and contact tracers also make attempts to interview each COVID case to collect or verify demographics and other important public health data. As the data is collected from case investigations the Merlin database will be updated. Some data elements, such as deaths and group care associations (Jails, LTCFs, and Schools) are reviewed by local and state staff for accuracy. Data within Merlin is considered provisional and is subject to change.

AHCA ESS Report: Florida's Agency for Health Care Administration (AHCA) requires all licensees providing residential or inpatient services to use the Emergency Status System (ESS) database for reporting its emergency status, planning or operations. In response to COVID the Agency added new reporting requirements related to COVID cases and hospitalizations at AHCA licensed facilities.

ESSENCE-FL: The Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) is a biosurveillance system that collects emergency department chief complaint data from participating hospitals and urgent care centers in Florida, call data from the Florida Poison Information Center Network, reportable disease data from the Merlin database, and mortality data from the Florida Office of Vital Statistics. The objective of this surveillance system is to provide the epidemiologist with the data sources and analytic tools needed to identify outbreaks or unusual trends more rapidly, leading to a timelier public health response.

FLSHOTS: Florida SHOTS is a free, statewide, centralized online immunization information system that helps healthcare providers and schools keep track of immunization records to ensure that patients of all ages receive the vaccinations needed to protect them from dangerous vaccine-preventable diseases. FLSHOTS is a program of the Florida Health Immunization Section and is supported by the Centers for Disease Control and Prevention.

Vital Statistics: The Florida Department of Health, Bureau of Vital Statistics manages the official database and records for deaths in the State of Florida. When a death occurs, the cause of death and medical certification is completed by a medical certifier, which includes physicians, medical examiners and autonomous advanced practice registered nurses. As these medical certifications occur, data and records are managed and stored within the Vital Statistics database.

FLHealth CHARTS: Powered by Florida's Bureaus of Community Health Assessment and Vital Statistics. CHARTS stands for Community Health Assessment Resource Tool Set, and compiles multiple datasets from a variety of agencies into a single source. Several data sources include Agency for Health Care Administration (AHCA), Florida Department of Health, Florida Department of Elder Affairs, Florida Department of Law Enforcement, and many others. A complete list of data sources can be found at http://www.flhealthcharts.com/Charts/documents/training/DataSources.pdf Data queries such as population estimates, birth rates, death rates, marriage rates, and reportable disease statistics can be found using this tool.